



Traditional Ecological Knowledge of Customary Trade of Subsistence Harvested Salmon on the Yukon River

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Traditional Ecological Knowledge of Customary Trade of Subsistence Harvested Salmon on the Yukon River

Catherine F. Moncrieff

ABSTRACT

In January 2003, the Federal Subsistence Board adopted new regulations clarifying statewide customary trade practices of subsistence-caught fish and identified the need for additional information, to enable it to further refine regulations. This project addresses that need by documenting customary trade practices of salmon in three villages on the Yukon River. Interviews were conducted with 28 key informants, and included both interviews with individuals and groups. Results from the study indicate that customary trade supports subsistence economies by providing much-needed cash. Customary trade of salmon is part of a social system that distributes resources over time and space. In Alakanuk customary trade was described as opportunistic, only conducted in high-harvest years with the exception of a few households that supply those who are unable to fish. In Holy Cross, customary trade was not unusual with 7 out of 8 participants engaging in customary trade. In Tanana, 6 of the 13 participants were active in customary trade, whereas the remaining 7 either did not conduct customary trade or participated at a minimal level. Throughout the study communities, customary trade of fish was a way to earn cash when few other opportunities were available. Customary trade was not conducted for profit nor is it conducted in isolation from other subsistence activities. The money earned was used to support a lifestyle, buying equipment and supplies used in pursuing subsistence activities.

Key Words:

Barter, customary trade, Chinook salmon *Oncorhynchus tshawytscha*, chum salmon *Oncorhynchus keta*, fishing, subsistence, traditional ecological knowledge, Yukon River

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INTRODUCTION

In January 2003, the Federal Subsistence Board adopted new regulations surrounding customary trade of fish. The discussions leading up to the new regulations made two points clear: (1) customary trade of fish is an important historical practice that is a part of the subsistence lifestyle in some areas of the state and (2) contemporary practices surrounding customary trade of fish are not well documented. The Yukon River Drainage Fisheries Association (YRDFA), as well as others, testified that studies on this topic were needed to clarify the contemporary nature of customary trade of fish and the role it plays in Alaskan communities. This study addresses this important issue by documenting current practices surrounding customary trade of fish in one village in each of the three federal regional advisory council areas that encompass the Yukon River: Alakanuk, Holy Cross, and Tanana (Figure 1). The information provided through this study will help federal subsistence fishery managers and others better understand the customary and traditional practices of customary trade of fish in the Yukon River area. This report begins by providing a discussion of the practice of customary trade and customary trade in the study communities. This is followed by a description of the objectives, methods, and results of this project. The report concludes with a discussion of the findings.

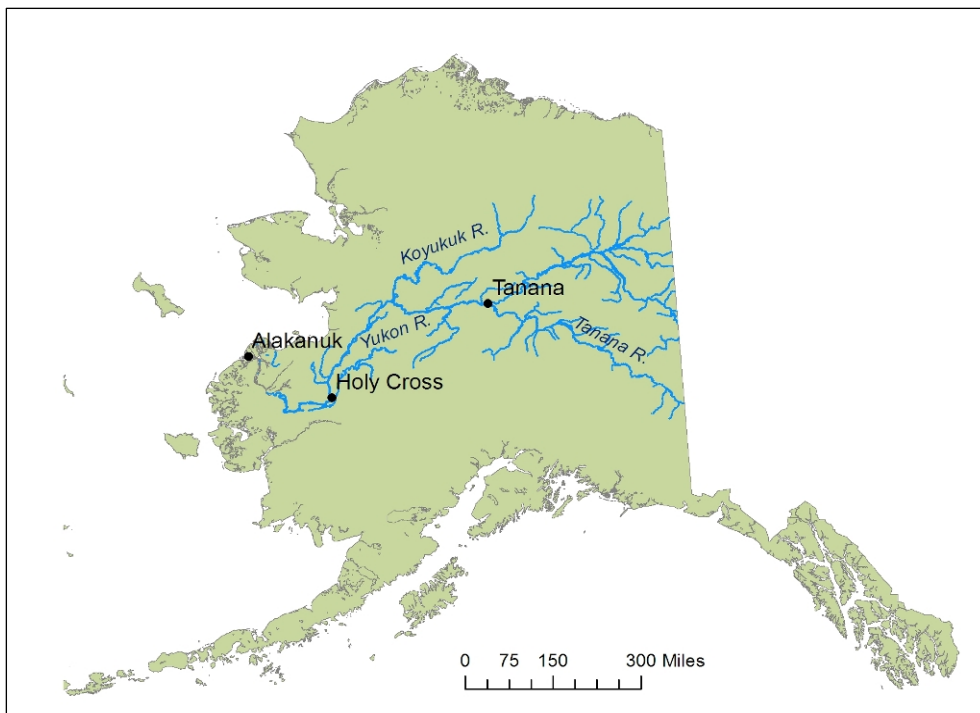


Figure 1. The Yukon River drainage including the study communities of Alakanuk, Holy Cross, and Tanana

Background

Customary Trade- history and current regulations

Throughout all of rural Alaska, it is common for subsistence foods to be distributed, exchanged, and widely shared. This distribution is guided by customary and traditional systems and rules. The distribution system takes place through barter and customary trade in addition to sharing (Wolfe and Ellanna 1983:4). “Sharing”, “barter”, and “customary trade” are subsistence uses identified in both state and federal regulation. Sharing is giving fish or other items away with no obligation required in return. Barter, sometimes referred to as “trade,” is the exchange of fish or other subsistence item for goods other than cash. Customary trade, sometimes called “for sale” or “sold,” is the exchange of subsistence items for cash.

Prior to Russian contact in the mid-1800s trade of fish within the Yukon-Kuskokwim Delta occurred within a village, between villages, and outside of the region with others—primarily Inupiat and Athabascan groups (Schroeder et al. 1987:221). Alaska Native societies traded to obtain subsistence resources which were not available locally. In the past and today, trade was both an economic and a social relationship (Langdon and Worl 1981:81). As Burch (1979:128-129) described for the Inupiat, partnership relationships existed which primarily focused on the exchange of goods, but they also functioned in additional social ways. Prior to the establishment of the Russian trading post at Nulato on the Yukon River in 1838, the trading partnerships were largely based on societal affiliation because these trade relationships were partnership ties that allowed for free passage through hostile areas (Burch 1979:132). After 1838, opportunities for trade were largely the focus of the relationships. Relatives frequently traveled with the trader, establishing their own contacts and increasing the number of partnership or trade relationships (Burch 1979). These types of relationships have also been reported to exist among the Gwich'in and the Koyukon Athabascans (Clark 1974:91).

Trade over greater distances, flowing from the Chuckee in Siberia to the Yup'ik through King Island and Stuart Island, began in the latter half of the eighteenth century after Russian movement into eastern Siberia (Schroeder et al. 1987:222). This trade was international, with Alaskan furs destined for the Chinese or European market and Siberian reindeer skin, iron, tobacco, tea, and some manufactured items headed for Alaskan villages (Schroeder et al. 1987:222). Once contact with westerners occurred, trade was intensified and some items became more valuable, such as fur. The new trade partners (westerners) recognized the value of the established trade networks and routes (Langdon and Worl 1981:81).

Trade between Alaska Native societies was conducted primarily to obtain goods not available within the trader's own region. Trade relationships were also social relationships, which required participation in ceremonies and social activities (Langdon and Worl 1981:81). Among residents of the Yukon River communities in this study, an obligation still exists to trade resources easily available in one area so that others may benefit and share the surplus. Trade relationships are social relationships through which resources are exchanged over time and space, often with a moral obligation to share one's riches or provide for others in need.

Customary trade is recognized as a legitimate subsistence use in federal law, through Title VIII of the *Alaska National Interest Lands Conservation Act* (ANILCA), which protects subsistence uses for rural Alaskans, including customary trade, barter, and sharing of fish and wildlife. Customary trade of fish is defined as an exchange of subsistence-caught fish for cash. Barter is the exchange of subsistence items (i.e., salmon) for goods other than cash. Sharing is giving salmon or other goods away with no obligation required or expected in return. Although these may be the legal definitions, the local definitions of share, barter, and trade are much more fluid because they are part of a larger movement or flow of goods. In the village setting, when something is sold there may be an additional sense of obligation or reciprocity by the participants. At times, the motivation for selling or trading may be more an obligation to social rules than merely economic gain.

In January 2003 the Federal Subsistence Board adopted new regulations which clarify the limits of customary trade of subsistence-caught fish. Under these regulations, rural residents may trade subsistence-harvested fish, their parts or their eggs for cash to other rural residents. Rural residents are also allowed to trade fish, their parts or their eggs for cash from nonrural residents if the fish are used for personal or family consumption (USFWS 2003). This new regulation requires that processed fish traded for cash meet the Alaska Department of Environmental Conservation (ADEC) health safety standards. This last requirement does not reflect the majority of customary trade as practiced on the Yukon River and leaves the sale of whole unfrozen salmon as the only protected or regulated activity. This action disappointed some Yukon River fishers because the sale of whole unfrozen salmon is the customary trade activity that they least consider is a part of their traditional and present trade practices.

State of Alaska Statute 16.05.940(8) recognizes “customary trade” as “the limited noncommercial exchange, for minimal amounts of cash, as restricted by the appropriate board of fish or game resources.” Although state statute recognizes customary trade, however, there exists a blanket prohibition (AS 16.05.920) against the selling of fish or game. In addition, state provisions for subsistence finfish fishing (5AAC 01.010, (d)), says, “It is unlawful to buy or sell subsistence-taken fish, their parts, or their eggs, unless otherwise specified in this chapter.” Thus, with the exception of herring roe on kelp in Southeast Alaska, where the Board of Fisheries recognizes customary trade (05 AAC 01.717); the State of Alaska has an almost complete prohibition on exchange for cash of subsistence-taken resources. This changed in 2007, when the Board of Fisheries adopted a proposal which allows for customary trade of subsistence-harvested finfish in the Norton Sound-Port Clarence area beginning in July 2007. Norton Sound-Port Clarence customary trade of finfish is allowable but requires a permit, must not exceed \$US200 in a calendar year, and must follow other various conditions (Magdanz 2007 personal communication).

Thus, while both state statute (AS 16.05.940(8)) and federal law (ANILCA) recognize “sharing,” “barter,” and “customary trade” as types of subsistence uses, other discrepancies in both the state and federal rulings and regulations regarding customary trade of subsistence-caught fish currently do not allow for protection of these activities.

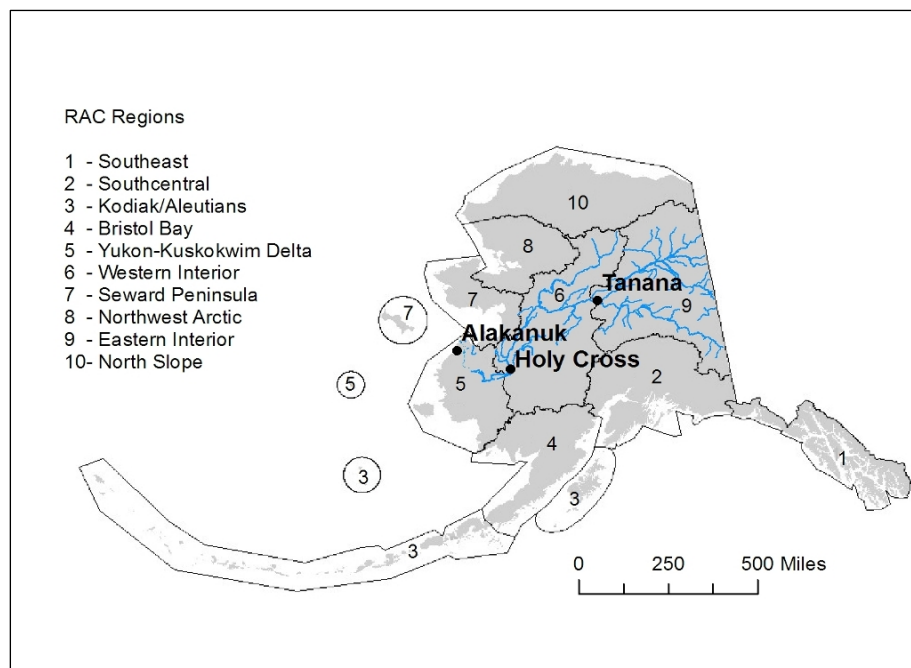


Figure 2. Federal regional advisory council areas and the study communities

Study Communities

This project took place in three communities along the Yukon River, with each community representing one of the federal regional advisory council areas of the Yukon River: Yukon-Kuskokwim Delta (Alakanuk), Western Interior (Holy Cross), and Eastern Interior (Tanana) (Figure 2). This report presents a description for each community examining the depth, extent, and nature of customary trade; the information for each was collected through key respondent interviews.

Alakanuk Alakanuk is located in the Yukon Delta on the south mouth of the Yukon River (Figure 3). When the Yukon River reaches the coast, it divides into a number of channels and empties into Norton Sound and the Bering Sea. To harvest fish, Alakanuk residents use the area around the south mouth of the Yukon River to the point on the river where the south and middle mouths come together. Some of the participants in this study fish close by the village in the immediate area or in the slough; others have set up fish camps on the Yukon River. Fishing areas mentioned by participants include Black River, Numan Iqua, Flat Island, Ulgy's Point (Waskey Point), Alakanuk Slough, Kwiguk Slough, and Fish Village.

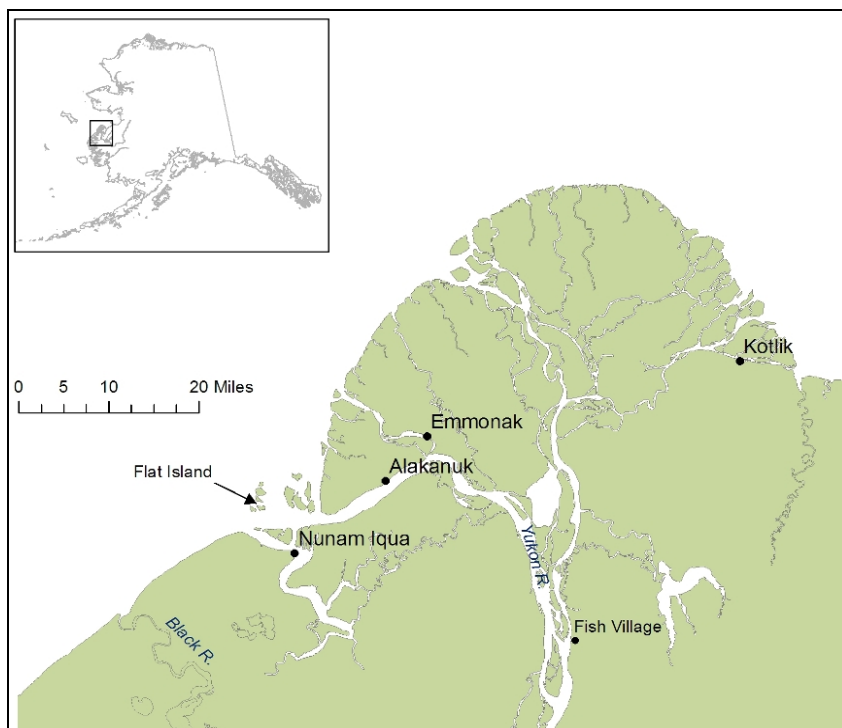


Figure 3. Alakanuk fishing areas

Figure 4 shows the lower Yukon River area where the people of southwest Alaska took advantage of abundant salmon fishing. Vanstone described the salmon runs as variable but as a more reliable subsistence activity than coastal sea mammal fishing (Vanstone 1984b:207). The Yupiit (plural of Yup'ik) living at the mouth of the Yukon River are part of the Yup'ik-speaking members of the Inuit family of cultures. The Inuit territory is quite large, extending all the way from the Pacific Coast of Alaska through the Bering Strait, to Canada's Arctic coast and into Greenland (Fienup-Riordan 2000:9). At the end of the 19th century, the Yupiit extended up the Yukon River to the area around Paimiut, where they interacted with Deg Hit'an Athabascans of the Holy Cross area (Fienup-Riordan 2000:9). The Yupiit were able to use their salmon-fishing knowledge effectively in the lower Yukon River, taking advantage of the abundance of salmon (Vanstone 1984a:228). The Kuigpagmiut are the group of Yupiit that lived along the Yukon River, downstream of Holy Cross to the river mouth (Vanstone 1984a:242). This area includes the community of Alakanuk, located on the middle mouth of the Yukon River, and the first of the three communities included in this study.

According to oral history, Alakanuk was founded by the descendants of a man named Anguqsuar and grew after 1940, when a cannery was opened there (Fienup-Riordan 1986:59). Alakanuk was a well-established winter community prior to the cannery's opening in 1940. At first, the village was located on the north bank of the Alakanuk slough, but river erosion in the 1960s caused people to relocate across the river. Today a few houses remain on the north bank (Fienup-Riordan 1986:59).

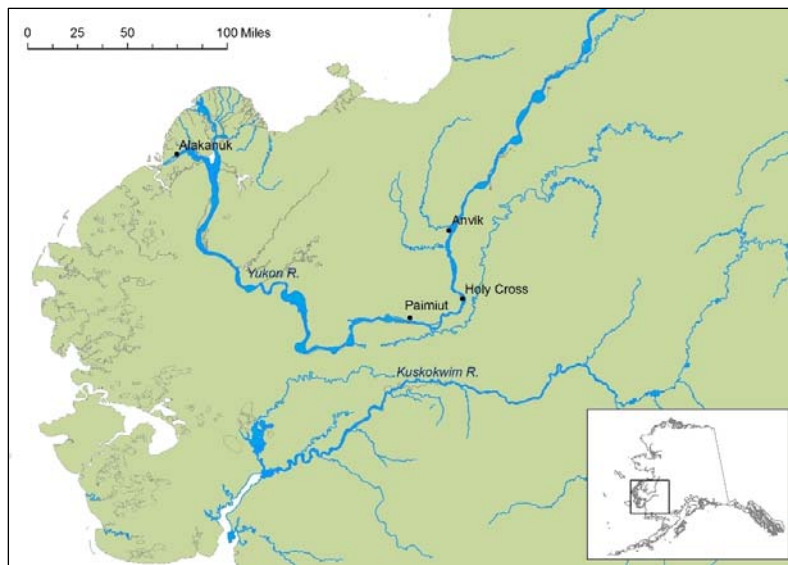


Figure 4. The lower and middle Yukon River area

Holy Cross The village of Holy Cross is not located directly on the Yukon River but on the west bank of Walker Slough, off the Yukon River. In this area, the Yukon River flows through the Innoko Lowlands, which are made up of numerous navigable rivers that played an important role in the culture of the local people by providing access to food and facilitating communication (Vanstone 1979b:3).

As mentioned, the Athabascan/Yup'ik boundary on the Yukon River can be found around Paimiut, the last Yup'ik village encountered going up the Yukon River (de Laguna 2000:290). Twenty-five miles upstream is the village of Holy Cross (de Laguna 2000:290), the second community in this study. In the area between Paimiut and Holy Cross, the Yukon and the Kuskokwim rivers are very close together. De Laguna heard on her travels in 1935 that at high water, a canoe or kayak could cross this area of lakes and streams without portaging (de Laguna 2000:291).

The community of Holy Cross is made up of Kuskokwim River Yup'ik and Deg Hit'an (Wheeler 1998:44). The Deg Hit'an (referred to as Ingalik by earlier anthropologists) are one of the many groups of Athabascans in Alaska (Osgood 1940). The Deg Hit'an lived in two areas in the 1830s when the Russians came up the Yukon River– the lower Yukon River and the middle Kuskokwim River (Snow 1981:602). On the Yukon River they lived along the Innoko River from Blackburn Creek and Holikachuk Slough to Holy Cross (Snow 1981:602).

Holy Cross was established in 1888 as a Roman Catholic mission and school and may have been the site of a former village (Vanstone 1979b:65). At the time of the establishment of the mission at Holy Cross, Koserefsky was the closest settlement and the source of inhabitants for the new mission. Reflective of this, the Holy Cross post office was called Koserefsky until 1912 (Vanstone 1979b:64).

In Deg Hit'an villages the harvest of the first salmon was so important it was shared among the entire village. The older men told the younger boys to take a small piece of their salmon back to the river to throw into the current (Osgood 1958:66). Still today, participants in this project explained that the first of the salmon is shared amongst the villagers until everyone has had a taste.

Tanana The third study community, Tanana is located on the north bank of the Yukon River at its confluence with the Tanana River. To harvest fish, Tanana residents use the Yukon River from Rampart Village to its confluence with the Nowitna River, the Tanana River from Manley Hot Springs to its confluence with the Yukon River, and major tributaries, especially the Cosna, Nowitna, and Tozitna rivers, and the areas surrounding these rivers (Case and Halpin 1990:11).

The Koyukon Athabascans cover a large territory from the lower and middle Yukon River, the Kantishna River and the Koyukuk River north to the Brooks Range (Clark 1981:582). They have been divided into three major divisions, including the Upper Yukon, the Lower Yukon, and the Koyukuk. The village of Tanana is occupied by people of the Upper Yukon division. Their territory traditionally included the area along the Yukon River from Stevens Village down to the village of Koyukuk located just below the mouth of the Koyukuk River (Clark 1981:582). At the time of contact the Koyukon Athabascans were reportedly more enthusiastic traders than the Deg Hit'an (Snow 1981:603). The Upper Yukon Koyukon Athabascans traded with the Tanana Athabascans, had friendly relations with the Koyukuk division, but were mostly hostile to the Lower Yukon division (Clark 1981:582). Around 1910, the fish wheel was introduced by miners coming up from Columbia River, and Yukon Koyukon adopted this practice almost exclusively, leading to the creation of large fish camps on the Yukon River (Clark 1981:588). Before the introduction of the fish wheel, Koyukon families gathered at fishing sites to build and install salmon traps and weirs under the direction of a "boss" (Clark 1981:588).

Trade

Precontact When the Russians arrived at the lower Yukon River in the 1800s, Native trade networks were well established with exchanges linking the Yukon Territory, British Columbia, Alaska, and Siberia (de Laguna 2000:35). Athabaskan groups traded among themselves and with their neighbors (Inupiat, Yup'ik, and Tlingit), trading interior goods in exchange for marine resources (Langdon and Worl 1981:84). Kashims, partially underground meetinghouses typical in Yup'ik settings, were built at a number of villages in the Deg Hit'an and lower Koyukon areas to host groups (de Laguna 2000:137). Large trade fairs were held at various locations such as Nuklukayet on the Yukon River near the mouth of the Tanana River (de Laguna 2000:67).

Athabascans obtained Russian manufactured goods through aboriginal trade routes prior to the Russian arrival in Alaska. In fact, it was for the specific purpose of intercepting the Native inland-coastal-Siberian trade that the Russians first explored the Yukon River and then established their deepest interior post at Nulato (Clark 1981:584).

Historical Trade – Alakanuk The Yupiit used trading partnerships as an alliance between different groups in the 19th century. These social networks were crucial in times of resource scarcity (Fienup-Riordan 1986:39). Russian metal goods began to enter into the Siberian-Alaska trade route in 1649 after the Anadyrsk Post was established (Langdon and Worl 1981:87). The Yupiit were traders but not as active as their Inupiat neighbors to the north. Some hypothesize that the Yupiit were less active in trade because their resources were more evenly distributed in their region (Langdon and Worl 1981:87).

At the turn of the century, an influenza epidemic reduced the Native population by half and many winter villages were abandoned on the Yukon and Kuskokwim rivers (Fienup-Riordan 2000:14). The decline in the Native population was matched by an influx of Gold Rush miners looking for a mineral environment similar to the area around Nome (Fienup-Riordan 2000:14). The discovery of gold both near the Yukon River in 1886 at Forty Mile River and the Klondike in 1897 caused dramatic and abrupt changes including a great number of steamers on the Yukon River. At one time during this era there were over 100 river steamers on the Yukon River (Schroeder 1987:223). The discovery of gold and the fur market gave new trade opportunities to the Yupiit. They supplied fish and cordwood to miners and steamships and participated themselves in the growing fur market (Fienup-Riordan 2000:14). In the late 1920s the Yupiit of the Yukon Delta began to settle around trading posts, schools, and canneries (Fienup-Riordan 1986:47).

Though much had changed in the lower Yukon River by statehood in 1959, much remained the same. The Yup'ik people of the lower Yukon River still focused on extended family relations and were dedicated to the harvesting of subsistence resources. Their seasonal activities remained the same as those of their ancestors (Fienup-Riordan 2000:17). But today village residents need money to be able to conduct their subsistence activities. Without the ability to harvest cash, hunting and fishing are activities that many find difficult to afford (Fienup-Riordan 2000:17).

Historical Trade – Holy Cross The Holy Cross area experienced western contact in the late 18th and early 19th centuries. Glazunov provided the first account of the people of the area (Wheeler 1998:69), followed by E.W. Nelson, a member of the U.S. Signal Service, who documented the way of life of the people of the area including ceremonial information (Wheeler 1998:72). Like other groups in this study, the Deg Hit'an were active traders within their territory and beyond it long before western contact. Through trade they were able to acquire goods not readily available in their area (Wheeler 1998:89), and the goods they produced were in demand beyond the Deg Hit'an villages (Osgood 1958:62). When Glazunov visited Anilukhtapak (Holy Cross) in 1834 Kuskokwim River traders may have been present (Vanstone 1979b:61). Because of the importance of the location for trading, Glazunov tried to convince the residents of the desirability of trading with the Russians (Vanstone 1979a:54). The Deg Hit'an traded wooden bowls, dried fish, and wolverine skin to coastal people such as the Norton Sound Inupiat in exchange for seal oil, sea mammal and caribou skins, and tobacco (Vanstone 1979a:64, Snow 1981:603). They also traded with upriver people from Nulato. Koyukon traders sometimes came downriver to the Deg Hit'an villages (Snow 1981:603). Osgood (1958:62-63) described Deg Hit'an trading trips to the Kuskokwim River to sell birch bark canoes in exchange for squirrel skins. In addition, he

described goods being traded for dentalia or shells which had a trade value similar to money. The dentalium was worn ornamentally in earrings, nose pendants, necklaces, and other decorative ways, which Osgood described as “rich-looking” (Osgood 1958:63).

When the United States took possession of Alaska in 1867, the steamboat era began on the Yukon River and the fur trade expanded (Snow 1981:611). The first steam-propelled vessel on the inland waters of northern Alaska was the *Yukon*. It made a great impression on the local people and its arrival was referred to as a noteworthy event in their lifetimes (Vanstone 1979a:106). This vessel was followed by the *St. Michael* in 1879 which was purchased by the Roman Catholic mission at Holy Cross. Other vessels followed, growing to a fleet of stern-wheelers on the Yukon River after the discovery of gold in the Klondike (Vanstone 1979a:113).

In the early American period of 1868-1883, traders on the lower Yukon River each owned a small barge of 5 to 10 tons constructed of lumber. They drifted downriver with their barges to St. Michael where they stocked up on goods from the company’s supply ship from San Francisco. After towing their barges upriver to their stations, they traded for furs and other Native products (Vanstone 1979a:113-114). In the late 1880s steamer traffic increased on the Yukon River as the Alaska Commercial Company ran two small steamers upriver to bring supplies to the trading posts, returning with furs, and the traders also had two steamers of their own (Vanstone 1979a:123).

Trade was carried out originally on a barter basis, but by the mid-1880s it appeared that the Anvik-Shageluk Deg Hit’an were beginning to demand cash payments. By the spring of 1889, Indians hired to work on mission buildings in Anvik were paid with cash instead of barter (Vanstone 1979a:124).

Historical Trade – Tanana The Koyukon Athabascans were an important link in the aboriginal trade network. Trade was usually conducted through well-established partnerships (Clark 1981:596). They, like the Deg Hit’an, traded interior goods with their coastal partners who had access to Siberian goods such as reindeer skins, tobacco, metal pots, and knives (Clark 1981:595). The Koyukon traded with other Athabascan groups as well as with their non-Athabascan neighbors (Langdon and Worl 1981:84). Trade was conducted both at smaller sites such as the mouths of some key rivers and also at large trade fairs, such as Nuklukayet near the mouth of the Tanana and Yukon rivers as shown in Figure 5 (Clark 1981:595). The Upper Yukon Koyukon traded with Koyukuk River Koyukon and Inupiat at Hunt’s Fork John River and sometimes with the Lower Yukon Koyukon at the mouths of the Koyukuk and Tanana rivers (Clark 1981:595).

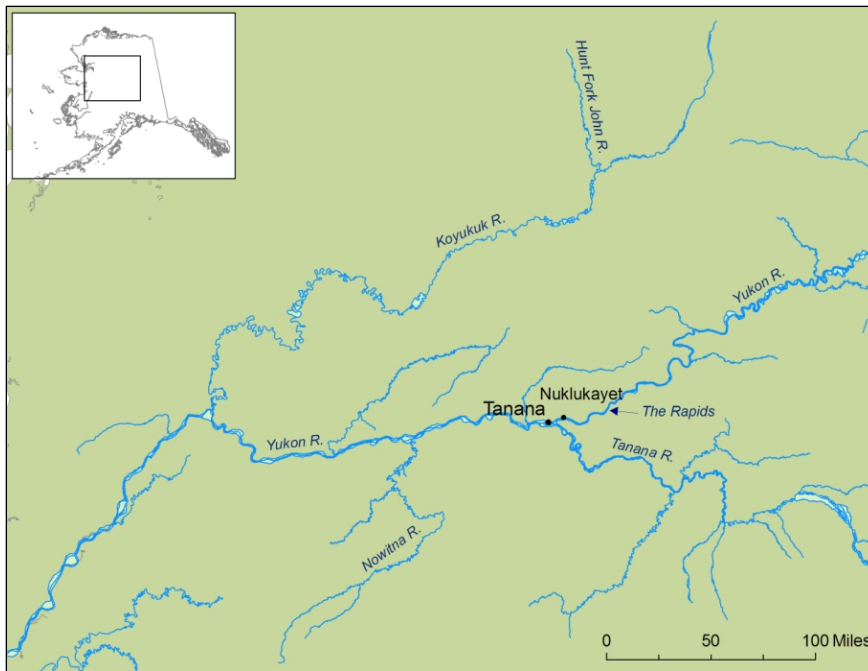


Figure 5. The Tanana area of the Yukon River

During the 1700s and early 1800s, trade goods were transported up the Yukon River from Russian posts along the eastern Bering Sea coast and lower Yukon River by Yupik, Inupiat, and Athabascan traders. Direct contact between either Russian or British explorers and local inhabitants did not occur as far upriver as the Tanana area until the Russian explorer Zagoskin traveled briefly to the mouth of the Nowitna River in 1843 (Zagoskin [1847]1967:175).

Subsequent contact in the Tanana area began in 1861 with the presence of Russians at Nuklukayet, where spring and summer gatherings of Yukon, Koyukuk, and Tanana River Athabascans took place (Clark 1981:586; Whymper 1871:236). Dall and Whymper visited the trading grounds in 1867 with a Russian trading boat. Dall wrote, “Nuklukayet was a neutral ground where all the tribes meet in spring to trade” (de Laguna 2000:68). Whymper (1871:236) wrote, “Nuklukayet, an Indian trading ground of importance . . . is about 240 miles above Nulato . . . On some occasions their gatherings have numbered 600 persons.” Whymper observed clothing styles adopted by differing tribes for a thousand miles and the use of dentalium shell, which he thought was obtained through the trading companies on the river. He learned that some furs in Nulato were accumulated for the spring trade at Nuklukayet rather than traded with the Russians and that another part of the trade reached the coast and eventually the Chukchi Natives across the Bering Sea (Whymper 1871:213).

Nuklukayette was a traditional intertribal trading ground also called Nukuloroyet or Nukluroyit, “at the point of the big island,” that is, the mainland between the Tanana and the Yukon rivers (de Laguna 2000:67). The Hudson Bay Company employees floated downriver from Fort Yukon to trade here from 1861 until the company’s expulsion from Alaska in 1869 (de Laguna 2000:69).

De Laguna (2000:93) reported that, “at least four early stations or trading posts were built between 1868 and 1878, of which three were known as Nuklukayet, or Noukelakayet, all on the

north side of the Yukon between the mouth of the Tanana River and a few miles below the mouth of the Tozi.” These posts deprived the Native fairgrounds of their importance for trade. The trading stations included: Noukelakayet (Nuklukayet #1) 1868-1878, Tanana Station 1869-1870, Mercier’s Station or Noukelekayet (Nuklukayet #2) 1877-1883, Nuklukayet #3 1877-1896 (de Laguna 2000:93). Companies such as the Alaska Commercial Company built and managed these posts. One of the trading posts, downriver from the confluence in a location that was previously a Native settlement, became a supply center for prospectors during the late 1800s (Case and Halpin 1990:13). Today this site is still referred to as Old Station and several subsistence camps continue to operate in the area.

Another Alaska Commercial Company station was called Tanana Station. It was built in the late 1800s at the present site of Tanana. The Kokrines store was located about 100 miles downriver from Tanana and a small settlement grew there in the late 1800s and early 1900s. Finally a post was built approximately 30 miles up the Tanana River at Harper’s Bend (Case and Halpin 1990:13).

In the 1860s, missionaries began visiting Native camps and trading posts along the Yukon River. Then in the 1870s and 1880s gold prospectors, missionaries, and government explorers began to move into the area, and thus the commercial company stores and steamboats which supplied them increased along the river (Case and Halpin 1990:14). Native fishers received credit or cash from the stores for baled, dried salmon which was then sold to dog mushers– mail carriers, fur traders, and missionaries (Loyen 1966:149).

Air transportation became increasingly prevalent in interior Alaska by the early 1930s. This decreased the need for dried fish in the upper Yukon (Pope 1980:13). As transportation modes changed, the stores began to close but salmon were still being exported from Tanana to Fort Yukon as dog food for trappers as late as 1949. By the 1950s, stores were no longer distribution centers for baled fish (Case and Halpin 1990:16).

OBJECTIVES

The objectives of this study are the following:

1. Clarify how customary trade fits within the overall subsistence use of salmon. Describe quantity of fish traded, and type of fish traded.
2. Document the extent and regional nature of customary trade and how it occurs between people within a village, between villages, and between villages and people in urban areas.
3. Improve understanding of customary trade and ways to provide for it within the context of subsistence management and uses. Describe nature of transactions and what is viewed as comparable values.

METHODS

All three study communities were contacted and project approval was obtained prior to the beginning of work in each community. Staff contacted two study communities, Alakanuk and Holy Cross, in April 2004 and the third community, Tanana, in 2005. The Tribal Councils, YRDFA board members, active fishers, and past YRDFA project participants were contacted to ensure the research was acceptable in their areas. The Tribal Councils offered their assistance and local research assistants were recommended and hired. Local research assistants, tribal administrators, and other contacts helped identify fishing families that may have been active in customary trade in each community. Staff then drafted the participant consent form (Appendix A) and topic list (Appendix B).

Interview participants were selected through nominations from the Tribal Councils, YRDFA board members, and local assistants. In addition, interview participants suggested other people who would be important to hear from regarding customary trade. Participants were selected because they were active fishers or knowledgeable elders who might have something to share specifically about customary trade. In May and June 2004, 15 semistructured interviews were conducted, 7 with fishers from Alakanuk and 8 with fishers from Holy Cross. In July 2005, 13 interviews were conducted with fishers from Tanana. Interviews occurred with individual fishers, but responses often represented their family fish camp, because salmon of the Yukon River were most often harvested as part of a family or extended family effort rather than for the benefit of a single person.

As originally funded, this project included only Alakanuk and Holy Cross. Members of YRDFA board, who were residents of the community of Tanana, requested that Tanana be added to the study. They felt that customary trade of fish on the Yukon River was not complete without an upriver community such as Tanana. With this recommendation, Tanana was contacted and approval was received from the Tribal Council to add them to the study in the second year of the project. When the interviews took place in Tanana, the project investigator was more experienced at obtaining complete information about harvest numbers, barter, and trade information. Thus, the information on Tanana harvest and trade is more complex and detailed than Alakanuk and Holy Cross.

Local research assistants in each community were invaluable because of their experience and local connections. Project goals and funding sources were described to each participant prior to each interview. In most cases, participants allowed recording of the interview with a cassette tape recorder. Interviews generally took place in the participants' homes or at fish camps, but in some cases they took place in an office setting. Interviews lasted approximately one hour each.

As originally conceived, a small-group discussion was planned for the initial stage, followed by interviews. However, once the project began, it became clear that more information could be gathered from individual interviews, so that was how we proceeded. It was also helpful for the

lead investigator to get to know the participants, their backgrounds, and their fishing history.

Topics covered during interviews included past and present subsistence fishing, with each fisher establishing a history or fishing background as well as describing family fish camp roles and harvest. The interview topic list included current fishing partners, locations, and roles; subsistence fishing changes in their lifetimes; and the costs of subsistence fishing today and in the past (more than 20 years ago). Interviews then moved into a discussion of sharing fish and/or customary trade of fish. Participants were specifically asked if they shared, bartered or sold fish now or in the past. If they answered yes, they were asked to describe the amounts and kinds of fish annually shared, bartered, or sold. They were also asked to describe their relationships with and residence of the recipients. Participants were asked what made them decide to sell fish and, if they sold fish, what that money was used for. Finally, participants were asked if there were others who shared or traded in their communities and whether state and federal regulations affected sharing, trading, or selling.

Subsequently, all interviews were reviewed and transcribed. A summary of the information learned in each community was drafted and shared with each community's research partner, the Tribal Administrator, and as many project participants as possible.

RESULTS

Alakanuk

In Alakanuk, customary trade was commonly referred to as “selling fish” or as “trade.” People in this community have been selling fish (or practicing customary trade) to the village store and to others for decades and longer. It has long been a part of their overall subsistence cycle, use of salmon, and access to cash. The cash attained from the sale of salmon was used for items such as food, gas, motor oil, and hunting and fishing supplies, which in turn support the annual subsistence cycle.

Four of the seven participants from this study community were active fishers. The remaining three were more active in years past and had stopped fishing, largely because of their age, and received fish caught by others. They ranged in age from middle-aged to older elders (40s to 70s). As noted previously, these participants were nominated by their communities as the fishers who would be knowledgeable on this topic. This study might have benefited from an additional interview with a fisher in Emmonak who was suggested by study participants as knowledgeable about customary trade. That interview was not conducted because it was beyond the scope of this project. All but one of the interviews in Alakanuk took place in the homes of the participants. Some participants had fished as young men and women or children (with their parents) in the 1950s for Jack Emmel's cannery. Twenty years ago they spent the entire summer from May to August at fish camp whereas today (2004) some of the participants either fished after work or

took a few weeks' vacation from work to get their fish. At least one participant enjoyed and was still able to spend extended time at his fish camp during the summer. Most participants had learned to fish from their parents and grew up fishing. Both drift gillnets and set gillnets were used in this area of the Yukon River for subsistence salmon fishing.

Historical Trade / Sale

According to study participants, until the 1950s or as late as the mid 1960s, people in Alakanuk sold salmon in bundles to stores. These bundles were used primarily for dog food, but also on occasion for human consumption. Stores bought and sold fish to people in the village and to visitors from other villages who were not able to catch as many salmon as they wanted. At this time, dog teams were more abundant and were used as transportation and for hauling mail, so a lot of fish were needed to feed the dogs. The bundles contained 20 to 30 dried fish, mainly chum salmon, and in the 1920s to 1940s were sold for \$4 a bundle. Because there were few cash-earning or employment opportunities, this was how some families earned the income necessary to buy flour, sugar, clothing, motor oil, gas, and hunting and fishing supplies. Participants described a reduction in the sales of fish between 1940 and 1960. They attributed this to a popularization of the snowmachine and thus a reduction in the number of fish needed to supply food for dog teams.

Sharing

The majority of subsistence-caught salmon was used within the household, shared with family members within the village, around the state and beyond, and shared within the village with nonfamily members.

Well, when I catch more fish than I need on a certain day, I call my sisters and my father-in-law and anybody else here in town that may need some fish and I share that fish with them.

Denis Sheldon, Alakanuk, May 2004

Another participant described how families shared their fish and the need for distributing fish within his community,

Yeah well, [when] we have too much fish and we know they didn't put up any fish, we share it with some of them people. You know there's a lot of people who don't put up fish, whether they don't have a boat . . . They don't have the adequate means of putting up salmon because they don't have a smokehouse and stuff. So . . . Usually up and down in Alakanuk there are certain families who put up a lot of fish, I guess for all their relations and stuff. So there's basically well there might be about for every 5 or 10 families there might be one smokehouse.

Frank Alstrom, Alakanuk, May 2004

The sharing of fish by one family might prompt a return gift, but it was not described as an

expectation as in a barter exchange. As Frank Alstrom (Alakanuk, May 2004) reported, “They [someone who received salmon] might stop by with a fresh sheefish or if they catch a lot of ptarmigan they might stop by with some ptarmigan, whatever’s out there.” However, in discussing the sharing of fish, participants in Alakanuk were reluctant to describe in great detail the quantities of food given throughout their annual cycle although they were able to describe very generally their sharing patterns. In his study on Norton Sound and the Yukon Delta, Wolfe (1981:208-209) found a similar situation. Most of his participants did not keep track of their sharing of food because the giving and receiving was such a common part of their daily relationships. He found that conscious awareness of the amount of food given and received was discouraged. If someone demonstrated this type of knowledge it might cause others to question his or her understanding of the meaning of giving and receiving. Wolfe (1981:209) also found residents of the Yukon Delta to be connected through an elaborate network of exchange relationships. He also found that people did not even perceive this as a flow of goods. Both in Wolfe’s study, as with this study, the most common form of food giving was the sharing of food among one’s close family (Wolfe 1981:208-209). The following quote is an example of how extensive and common this type of sharing is among fishers in Alakanuk.

I fish at my camp but when I have more fish than I need, I call around and give them to [family members] especially my sister and my brother-in-law. They fish but sometimes I catch more fish than them and when they catch more fish than I do they share with me. We do that especially with our relatives or our close friends. [I also give fish to family members who]...live along the coast and sometimes to our relatives and friends in Anchorage. Places like Hooper Bay, Chevak, Scammon [Bay] and further even up north like Stebbins. Places where they don’t have the type of fish that we do.

Denis Sheldon, Alakanuk, May 2004

Barter and Trade

In the Yukon Delta, a variety of food and other items were traditionally exchanged through large trading networks. Dried fish for dog teams was the last major food item traded. Trading food for economic purposes declined after 1920 but continued at a low level into 1980 (Wolfe 1981:217). Wolfe identified Yup’ik terms for both the exchange of goods for another good or barter and the exchange of goods for cash. These terms included *chigiq*, the giving of surplus to those with fewer resources, so as to avoid waste; *navolhotuq*, barter; and *tungyiaq*, trade of goods for cash or some currency (Wolfe 1981:217-218). He also distinguished these two types of traditional exchange from the regulated “commercial” trade of food, which occurred between a licensed buyer and resident fishermen for the purpose of export outside the village. Both *navolhotuq* and *tungyiaq* referred to trade within local markets (Wolfe 1981:218). At the time of his study, only a few products were exchanged on the local market, including dried salmon strips and seal oil, and in most cases the buyer was local to the Yukon Delta. Wolfe found that because of the small population of the Yukon Delta, the amount of available food trade items, and the limited demand for these items, local trade would not threaten the resource base. He therefore argued that the traditional trade and barter on the local market was essentially self-regulating (Wolfe 1981:219).

Costs of Subsistence Fishing

The cost of subsistence fishing has increased dramatically over the participants' lifetimes. As an example, the price of gas in Alakanuk in May 2004 was close to \$5 a gallon. Participants stated that small trading activities outside the commercial fishing season provided necessary cash to purchase gas, oil, food, nets, equipment (such as twine), and to make repairs on fishing and hunting equipment. Customary trade of fish thus typically supports subsistence fishing activities.

Contemporary Customary Trade

Only a few people from Alakanuk described selling subsistence-caught fish. Interview participants said that if they sold fish it was unplanned; they happened to have extra and someone needed it. This is what Wolfe described as *tungyiaq* (Wolfe 1981:217). According to respondents in this study, reasons given for selling fish today included helping others in need, avoiding waste, and having a source of cash to be used on subsistence supplies and household expenses. Sometimes individuals came to fishers because they wanted to buy fish for a potlatch.

Although 3 out of the 7 interview participants said that they had never sold fish, they remembered their fathers taking bundles to the store. Two stores were described in the interviews: Jack Emmel's cannery store and the Alstrom store. When fish is sold in Alakanuk today, it is typically in much smaller quantities than in the past. Rather than bundles of 20 to 30 fish, participants described a variety of typical transactions ranging from one to five Ziplock sandwich (quart) bags of smoked strips valued at \$20 each, to dried chum salmon in a 5-gallon bucket valued at \$200.

One participant described his own participation in customary trade of fish and reported that he had been selling subsistence-caught fish for 20 years when he had extra fish. In these surplus years, he took his extra fish to neighboring villages that reported to him a need for purchasing fish. He described that these surplus years may occur as seldom as every 10 years. The quantities he sold were larger than the typical transactions described above. He stated that the money he earned through customary trade transactions was necessary to pay for his house, electricity, transportation, hospital bills, food, and clothing.

One participant described the places where Alakanuk fishermen distribute their fish. He stated that he traded or sold fish with people in places like Hooper Bay, Chevak, Scammon Bay and Stebbins as well as Anchorage. They trade their fish with people in areas that don't have the same type of fish as they do in Alakanuk. As this statement illustrates, the practice of customary trade of fish is continuing to move goods of one kind to an area where they are not available.

Only one participant mentioned that he had bought fish. Within the past few years, he had bought a box of locally dried chum salmon for \$40. Another participant also talked about seeing fish for

sale in the local stores occasionally. It was reported that others bought fish at times when they could not fish because they were sick or absent and missed the fishing time. Then they asked around to see from whom they could buy fish. One participant remembered a time when young men went to work in canneries during the fishing season. The people at home harvested extra fish knowing the young men would need fish when they returned home. Wolfe (1981:220) also found that it was common for some families to put up a small amount of extra dried salmon for exchange later, when people found themselves without adequate salmon supplies. At the time of Wolfe's study (1980) these individuals were able to purchase these small surpluses on the local market for about \$9 a pound. He also found that this trade was conducted at low volume because of the high cost of processed salmon during winter (Wolfe 1981:220).

Some participants in Alakanuk reported that they had sold fish to people in other communities around the region and around the state. People most notably sell salmon but sheefish *Stenodus leucichthys*, loche *Lota lota*, pike *Esox lucius*, small blackfish *Dallia pectoralis* (3-4 inches) and humpback whitefish (pointed and blunt nose) *Coregonus pidschian* and *Coregonus nasus*, are also traded for cash. One of the study participants described recently seeing bundles of dried whitefish in the store selling for \$25 a bundle.

Some participants described the custom of selling sheefish for use in potlatches. These fish were traded (sold) between villages when a load was taken to another, nearby village. Trading sheefish for potlatches was described as customary and continues as an important tradition today. At the time of this study, a sheefish sold within Alakanuk was valued at \$5 a fish; however, the same fish sold to another village in the region was valued between \$10 a fish and \$1 a pound. Wolfe (1981:220) found that sheefish caught in Kotlik or Emmonak were sometimes exchanged in Stebbins for \$4 or \$5 apiece during the winter of 1980. Broad whitefish was also sold in small amounts in the same type of transaction.

Some participants felt that they were not largely affected by state and federal regulations guiding customary trade, whereas others felt regulations directly affected their practices. One participant explained this by saying that most village residents were not aware of the state and federal regulations that relate to buying or selling fish. Although customary trade is something that has always occurred in Alakanuk, some participants reported that those aware of the laws were not practicing customary trade as much as they wanted to.

Holy Cross

In Holy Cross, participants referred to the practice of customary trade of fish as "selling fish." People of this part of the Yukon River have been selling fish (or practicing customary trade) for decades and longer. It is a part of their overall use of salmon and their subsistence cycle. As it was described in interviews, it was not unusual for people in this area to sell subsistence-caught dried/smoked salmon. The money raised from the sale of salmon helped to offset the costs associated with subsistence activities, purchasing gas and other necessary items such as food, gas, motor oil, and hunting and fishing supplies. It was also used for household expenses such as

children's clothing and utility bills.

The participants in this study were all active fishers or still cutting fish caught by family members. All the interviews took place in the participants' homes, with the exception of two that took place in offices in Holy Cross. The participants described their fish camps as being located at Ghost Creek, Walker Slough, on the island across from Holy Cross, 18 miles below Holy Cross and at Paimiut, 30 miles below Holy Cross. The participant who had been fishing the longest was also the oldest and had been fishing 67 years. At the time of the study, all the participants had grown up in fishing families and all still fished in family groups. These included husband/wife, parent/children, and sibling teams. There was a mix of drift gillnet fishing and set gillnet fishing with some participants' families using fish wheels prior to 1970.

At the time of this study, people in this part of the Yukon River either devoted the summer to fishing or they tried to meet their needs quickly, working around employment or other commitments. Many people had shifted their lifestyle away from living at their fish camp and instead now brought their salmon back to their houses to dry and process where their smokehouse was located. Others dried their fish at camp (in the traditional way) but they did all their canning, salting, freezing, and vacuum sealing near the house between working shifts. As the following quote illustrates, the amount harvested varies both by year and by family as one family gets from 150 to 250 Chinook salmon a year, and another got close to 300 Chinook salmon last year.

If the fish is good, we'll have a good winter. If the fish is poor, we'll have a poor winter. It's not like we can go to a store and pick out our supper. We have to look in our freezer at what we processed.

Kathy Chase, Holy Cross, June 2004

One participant talked about putting up salmon for the dogs. This family had dogs until 1972 and had to put up a lot of chum salmon because commercial dog food was too expensive.

Historical Trade / Sale

Some of the participants in this study remembered their grandfathers' selling fish to traders in the 1950s. They described the traders who traveled the river by boat during the summer to buy dried chum salmon (dog salmon) in bundles of fifty. They remembered the traders, with stores on their barges, who bought many fish. The barges stopped in the villages and people would come out to sell fish to the traders on board. One participant remembered the trader from Koyukuk, Dominic Vernetti, who bought dried chum salmon in bundles of fifty. She recalled that he would buy all that he could and then make a spaghetti dinner for everyone on his last night. This trader would stop in Holy Cross, Kaltag, and Nulato, and return to Koyukuk. Her grandfather sold him dried chum salmon and canned Chinook salmon. She remembered helping her grandfather prepare the fish for canning and watching them weigh their dried salmon. Some of this canned Chinook salmon was mailed out and some of it was sold to the trading boats.

Participants described high levels of trading in their youth in this part of the Yukon River. One

participant remembered various types of transactions. For example, his father traded dried salmon for lumber to build his house. He took his salmon to another village where an elder had a sawmill and produced lumber. With this lumber he built his house. In another example, an individual from one village traded a handmade boat for salmon. Another individual remembered his mother getting groceries and gas for the summer at fish camp and paying for it in the fall with fish, a practice which is no longer the norm at local stores.

Sharing

Fish was given to people in Holy Cross who did not have fish. This was done in an effort to help others and to share. In town, people came by a fisher's house who had clean fish outside for anybody to take. People who did not have someone to provide fish for them often received fish in this way. They then took it home and jarred it for later use. This was one way sharing was done in the village. Residents of this community were taught, and believed, that when you share, you get more back.

When the salmon arrive, the first catch is shared with the elders in the village, reflecting local values. This practice has been long noted in the literature (Clark 1981; de Laguna 1995; Osgood 1958). Once all elders have received salmon, everybody else in the village has a taste. It usually takes the first week and a half to make sure everybody has fish, to give salmon to people who do not fish or cannot fish for a variety of reasons ranging from not owning a boat and motor to being too old or disabled to go fishing. Once everyone has eaten salmon, the fishers can begin to cut fish for themselves. The following quote illustrates this practice and the belief that when you share you get more back,

When the first fish come, we don't cut fish until everybody in Holy Cross eat[s] fish. So for the first week and a half we give everything away that we get because some people don't fish, they can't fish, either they don't have boat and motor or they are too old to be going fishing. You make sure everybody has fish. We have our mental list because there are other people doing the same thing too. When everybody's got enough fish to eat for a while, then we cut fish. But we can't cut fish until everybody eats fish at least once. Then we can start cutting fish for ourselves because at first if you don't give fish away when they first come in then you won't get fish. You can't be stingy; you've got to help your people out. Because everybody wants that fresh fish when they first come in, the taste of it. And some of them, you give them the heads, because they only want the head. The next time you give them the main part. And some of them you give them the eggs because they want those eggs first and then you give them the meat. You give them chunks of fish. But everything is given. Angela Demientieff, Holy Cross, June 2004

Salmon is given away during the entire salmon fishing season to people in the village. Many people in the village who are not fishing receive "buckets of fish to bottle" (jar or can) at their house for their own use. The fishers are often too busy to jar fish until the last day of fishing. Someone who receives a bucket of salmon is responsible to bring the bucket back that evening or the next morning so it can be refilled the next day for another nonfishing person in the village.

Although many people do not fish, they still need to eat the bottled fish. One participant explained how he followed his father's practices of giving fish to people who needed it throughout the year.

Salmon is also shared for community events. Many participants spoke of donating salmon to potlatches. They felt responsible for providing salmon because it is very important that Native food was on the table at the potlatches. Fishers also brought fish to the funerals in their own village or other villages. Salmon strips were often stored in gallon-sized Ziploc bags, weighing about 4 pounds. For a potlatch, one participant explained that two or three of the gallon-sized Ziploc bags of salmon would be shared.

Salmon is shared with family members who live in their home village and also with those who live outside of it. The people interviewed for this project sent salmon all over Alaska and outside the state. Salmon is often sent as Christmas presents or gifts. Some family members come back to the village to help during the fishing season. One person said that she estimated that, through their sharing network, 30 people ate the fish that they processed. In return for salmon, family members and friends sent things such as fresh beef, CDs or crafts.

Participants strongly believed that sharing their salmon with people outside their village was important because they have salmon in other places but it was not the same as the salmon from their part of the Yukon River. Study participants were proud of the quality and taste of their fish and it was well-known around the Yukon River region. One participant said,

We're at one point of the Yukon [River] where it's good fish, the best fish there is. It's not too greasy and it's not too dry. Downriver people come up and get our fish from us. Upriver [people] come down and get our fish. Hunters come in the fall time and ask if we have fish. They really like our fish.

Kathy Chase, Holy Cross, June 2004

Barter

Yukon River Chinook salmon is traded for a variety of items. Some people bring salmon or moose when they travel and give it as a gift to the family they stay with. One participant traded fish for pizza from another village: one pizza for one Chinook salmon, each valued at about \$12. Others traded their salmon for Kuskokwim River fish, berries from the stores in Anchorage, berries from the other areas, or crafts or services. Trade relationships, active in the precontact era, continue to exist today. This helps to distribute resources to places at times when they are needed throughout the region. These kinds of transactions can be immediate or they can take place over time. The following quote illustrates this transaction:

I'll give you this and next fall you give me that, they [someone from Shageluk] tell me they will. So when fall time comes or maybe next winter, maybe I'll get something from them. It's like we gave them a load of fish, king salmon, they can use our boat and our motor and our net and they got a whole bunch of kings. That fall, in November, we got a

big bag of whitefish. Cause they got whitefish up there and we don't get that many. So it was a good trade for us because we need the whitefish, we need it in November, because we [only get it]... in September. Angela Demientieff, Holy Cross, June 2004

Cost of Subsistence Fishing

Subsistence fishing has increased in cost and fish is traded to make up for the associated costs. Unavoidable costs described in the interviews included gas, motor oil, equipment repairs, and nets. Other costs may include gloves, rain pants, boots, insect repellent, burlap, twine, salt, and freezer bags. A fishing net, which costs \$1,500 plus freight, may last four to five years with annual repairs or it may be lost in river debris the first year it is purchased. Outboard motors have to be maintained and sometimes replaced. Gas in this Yukon River village was \$3.20 a gallon in June 2004. Most participants felt that gas was the largest annual expense related to subsistence fishing. One participant estimated his annual gas expense to be over \$1,300. In addition to fishing and transportation to fish camp, the boats are often used to gather the wood needed for heating and smoking the fish. "I trade [sell] fish to make up for the gas and nets I have to buy . . . I got to, otherwise, I don't know how else I [could] do it, to me it's part of the trade," stated Luke Demientieff (Holy Cross, June 2004).

Many people in the village have low-income jobs or no jobs. Employment opportunities in Holy Cross are limited and household incomes can be low. The median income for Holy Cross is \$21,875, compared to the national average of \$41,994, and 33.3% of population lives below poverty line here (U.S. Bureau of the Census 2000). Researchers have found there to be a high reliance on fish and game resources in Holy Cross, as well as abundant sharing of subsistence resources between households and between communities (Wheeler 1998:93). Customary trade of salmon can offset the cost of gas and bring in much-needed cash to help cover other costs of subsistence activities as well as household expenses, groceries, school clothes, Christmas expenses, and travel. Fishers use the money from selling fish to buy food, pay bills, and to buy items their children need.

Contemporary Customary Trade

Many of the participants in this study had grown up in a family that sold fish. They remembered their grandfathers' selling salmon and they remembered "getting paid" for helping with the fish when they were young by being allowed to order school clothes. Today that practice continues as the cash received in trade with fish is still often used for school clothes.

One participant started selling fish because a friend from outside the village asked if he had any fish for sale. A lot of people want to buy fish. Most people said they sold fish only to friends, or to the same people every year.

Of the 8 interviews that took place in Holy Cross only one family said that they never sold fish.

This was because they were only able to get enough for themselves to eat. Information on an actual amount earned from sale of fish was not easily obtained and the question had to be asked a few times in different ways. In some cases this appeared to be due to casual tracking of sales and in other cases this may be because the participants were reluctant to reveal information they felt might be illegal. In two interviews in which participants sold fish, a rough figure was not obtained. Of the figures gathered, participants earned an average of \$1,360 annually.

Mostly strips are sold, but some people mentioned selling Chinook salmon, and chum salmon split fish or half-dried. The salmon sent out is usually bottled or vacuum-sealed. Fresh fish are not sent unless somebody is traveling and can bring the fish with them. The quantity sold varies by year and by individual, depending on how many fish they get overall. One participant traded about 6 cases of pints, or approximately 18 fish; others traded an average of 30 to 40 pounds. Strips go for about \$16 to \$20 a pound, depending on who is selling it and who is buying it, but many expect that the price of strips in Holy Cross will go up to \$25 a pound because of the high gas prices. In June 2004 a gallon-sized Ziplock bag of salmon was valued at \$50. A summary of some of these prices in Holy Cross in June of 2004 follows:

Half-dried salmon bellies	\$75/case
Chinook salmon strips	\$16-20/lbs.
	\$100/5-gallon bag
	\$20/quart bag

The selling of fish mostly takes place at the end of the season. It is sold in Anchorage, sent to people who request it, or sold to individuals traveling through the village. When salmon is sold in Anchorage the cash received in trade is used to fund travel expenses, hotel, groceries, and school clothes. This type of customary trade can help those who have few other cash-earning opportunities.

Much care and precision goes into the processing of the salmon. Many participants spoke of the importance of cleanliness in the processing of the salmon, making great efforts to ensure that the process was sanitary. Washing and scrubbing cutting tables and poles, using clean running water, utilizing lights, fans, humidity gauges, temperature gauges, and ensuring proper ventilation are all practices put to use during the processing phase. Discussions over increasing production and considering licensing through the Alaska Department of Environmental Conservation (ADEC) described a general feeling of inability to meet all the requirements for a fish-processing license in their remote setting. In particular, providing a cement floor or a stainless steel table were problematic. Participants felt strongly that the ADEC food safety regulations were too strict and unrealistic in rural Alaska. Participants also felt that their traditional system of processing fish, if done with care, works well and does not make people sick or ill. In fact, respondents felt that people who ate their salmon were healthier than those who ate more commercially processed foods.

Family and fishing groups cooperate to harvest their salmon. Customary trade of salmon is an important tradition and in some cases it brings a family together that is usually spread around Alaska. Participants described the pride they felt in the entire process, "good hard work that keeps everyone busy in the summer and makes a family self-sufficient." Participants spoke of

the enjoyment they get when they see their fish hanging, drying, in the smokehouse, on the cutting table, and finally, cut up in bags for storage. Yet, to be able to afford to fish one must have access to cash or a cash-paying job to buy a boat, motor, gas, and supplies. Cash received through customary trade makes subsistence fishing possible for many.

In sum, it is not unusual for people to sell subsistence-caught dried/smoked fish in this Yukon River community. This study found that the money earned through customary trade of subsistence-caught salmon in Holy Cross averaged US\$1,360 annually per study participant. This money is used to buy gas and other items needed for fishing activities. It is also used for household expenses such as children's clothing and utility bills.

Tanana

Contemporary customary trade of fish in Tanana was referred to as “for sale,” “sold” or “selling,” while barter was often referred to as “trade.” Sharing is giving salmon or other goods away with no obligation required or expected in return.

The participants were mostly active fishers, although three were more active in years past. The large majority of the interviews took place at family fish camps. These camps are located on a stretch of the Yukon River from 20 miles downstream of Tanana to a place locally referred to as “the Rapids,” 40 miles upstream of Tanana. These fishers have been established at their fishing site for an average of 20 years, and ranged from the families raised at their fish camp with the elders still fishing there 40 years later to the newly established sites where the participants have had a presence for only 5 years. Nine of the 13 interviews were with people who had grown up in the area fishing with their families. The participant group included 5 fishers who had been at their camp 28 to 40 years, 3 fishers who had been at their camp 16 to 23 years including one (20 years) who had also fished at the same site as a youth with her parents, and 5 fishers in the newly established group who had been at their camp for 5 to 10 years. Three of the newly established fishers had fished in their youth with their parents and one had fished at a different site previously for 10 years. There were four elders, three male and one female, and four younger fishers from the Tanana area in the interview group. Six of the interviews were with fishers who did not grow up in the area.

Participants used a mix of fishing gear, with six families using set gillnets and seven families using fish wheels. All but one fish camp were family settings and this fish camp was represented by an individual who partnered with friends to share the work and the harvest. Most participants were currently raising their families at fish camp or had done so previously. In the family fish camp setting there is usually an extended family present, sharing the roles of fishing and processing salmon. The fishers interviewed ranged in time spent at their fish camp annually from 2 weeks to 4 months, with the exception of one fisher who lived year-round at his site. The average time spent at camp annually by these participants was 3 to 3 ½ months.

The fishers interviewed for this project, together with their families, mainly harvested Chinook

salmon. The average harvest of the family fish camps that participated in this study in 2005 was 375 Chinook salmon. The Alaska Department of Fish and Game reported that the heavy harvesters in Tanana used an average of 232.4 Chinook salmon in 2002 (Brase and Hamner 2003) and 301.3 Chinook salmon in 2003 (Busher and Hamazaki 2005). Of the 13 people interviewed, 5 focused on fall chum salmon in addition to Chinook salmon. Three of these camps harvested 4,000 fall chum salmon, one harvested 3,000 and one harvested 2,000 fall chum salmon annually. The other camps either did not participate in the fall chum salmon run or caught a minimal amount. The camps that harvested only small amounts of fall chum salmon focused on the early run fall chum salmon, locally called “silvers.” These salmon were targeted for human consumption as eating fish while the later fall chum salmon were mainly harvested to feed dogs.

Four of the fishers interviewed were elders who grew up fishing in Tanana or nearby between the 1930s and 1950s. They remembered that people specialized in their craft or skill; some fished, some grew gardens, some picked berries, some hunted, and some cut wood. Trade (barter) was common and essential. People traded with one another and with the store for groceries, clothing, and other essentials. They remembered helping their parents or other family members prepare bundles of salmon for sale or trade to the local store. They used the terms “for sale” or “trade” but explained that during this time period the transaction was always the exchange of salmon for other goods or what is defined today as barter. These definitions are not consistent over time. The bundles were smoke-cured salmon in 50-pound bales bound with wire specifically for the stores.

Historical Trade / Sale

When the elder participants in this study were growing up (1930s to 1950s), there were two stores in Tanana and each bought bundled dried salmon. The Northern Commercial or NC Store was run by Ory Shade, and the Tanana Commercial or TC store was run by Andy Vachon. Summer and fall chum salmon were made into bundles for resale as food for dog teams. Chinook salmon was also bundled for resale as fish for human consumption. The fishers paid off past bills or received groceries or other goods in exchange for the bundled fish. The store kept a record of the exchanges.

One woman in this group spent her summers as a child in “the Rapids” (see Figure 6). This area is a traditional fishing ground for the Athabascans from the Tanana area. She remembered the Rapids filled with people from Tanana during the fishing season. They fished in the summer and cut wood in the winter for their income. They fished Chinook salmon for their own use and fall chum salmon for sale. Fishing and trading was their job. They loaded everything on a raft—dogs, fish, and gear—and floated down to Tanana to sell their bundles to the store in exchange for clothing and groceries.

One elder interviewed grew up in Kokrines and spent most of his youth in camps (fishing, trapping, etc.). His family’s fish camp was near the Nowitna River and they sold their fish in Ruby. His family made the 50- to 60-mile trip to Ruby once or twice a summer to sell their fish

and receive groceries and gas in exchange.

All four of these elders continued fishing and raised their children at fish camp. They were all employed in Tanana and were able to continue fishing by sharing the work with their families; cutting fish in the evenings and early mornings, or by having a job at the school that required their time only in the winter. Some of them fished less and harvested only enough to feed their families. Others continued to sell or trade fish.

Another four fishers interviewed were women who were raised by the elders just described. All four had grown up fishing with their parents in the 1960s, 1970s, and 1980s. Their parents had fish camps in three locations: the Rapids, 25 miles downstream of Tanana, and right in Tanana (Figure 6). The ones who traveled to fish camp remembered slower boats and fewer trips to town. As children they helped their families prepare fish for sale in bundles. They remembered the family fishing to provide food and, at the same time, their parents working jobs in town. Some of these fishers are still fishing at the same site their parents used.

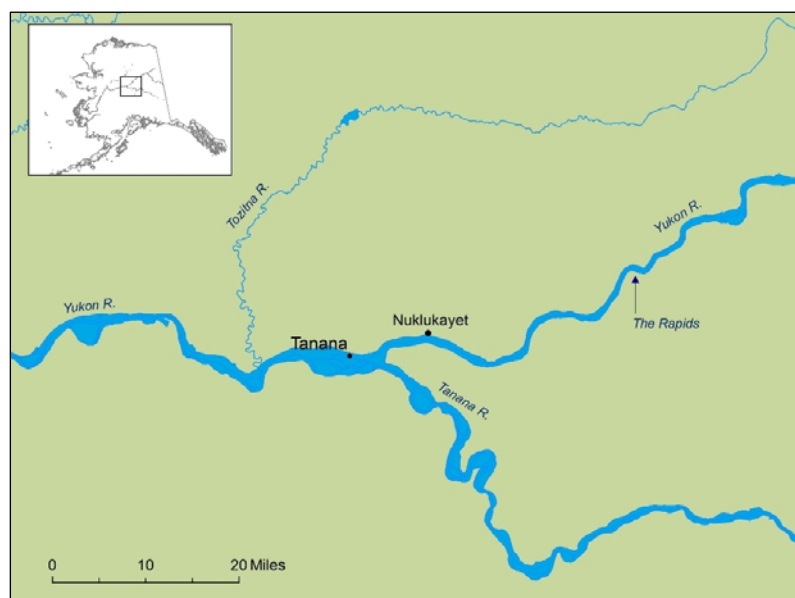


Figure 6. Tanana fishing areas

All four of these younger fishers continued or restarted fish camp once they married and began having children. All of them talked of how they loved fishing, fish camp, and the healthy lifestyle it provided.

Sharing

Fishers interviewed in Tanana shared their salmon with their immediate and extended family members, including brothers, sisters, nieces, nephews, parents, grandparents, and children. Many of these extended families resided in Tanana, but some of them were also located around the state in Anchorage, Fairbanks, Kenai, Beaver, North Pole, Manley Hot Springs, Rampart, Minto,

Nenana, and Sitka. They sent their salmon out of state to family members living in Colorado, Oklahoma, Pennsylvania, North Carolina, Washington, Oregon, and Wisconsin. Some of this salmon was further redistributed by the family members who received it.

In Tanana, salmon is given to individual elders, elders' residences and people who do not have access or ability to fish. Almost all of the fishers interviewed stated that the first salmon caught were given away to share the taste of the first fish and to bring luck to the fishers. Many fishers said they did not keep any of the salmon caught during the first week of fishing. This practice is a time-honored tradition. Most fishers reported giving a fairly substantial amount of salmon to potlatches; a bag of strips, 14 to 16 Chinook salmon, or a few hundred pounds of salmon. Salmon is also given to people directly from the fish wheel. Many of the fishers interviewed who operated a fish wheel spoke of visitors that came and asked for salmon. These visitors were often instructed to just take some from the fish wheel. Finally, salmon, in its various forms, was reportedly given away annually as gifts or presents.

Barter

Trading salmon, or bartering to exchange salmon for goods other than cash, was portrayed in the interviews as something more prevalent in the past than today. Today, there is still trade for salmon, but many project participants expressed that it was easier to exchange salmon for cash. One participant explained that there was a lot of trade up until the 1980s. He attributed the reduction of trade to the popularity of commercial dog food. Salmon is still traded for moose, caribou or dried meat; gas; fresh produce or groceries; chicken eggs; berries; other fish such as halibut, shrimp, and crab; labor, plumbing, electrical, or mechanical assistance; room and board; rides, a rifle, a boat and motor; airplane repairs; airplane parking; medical and dental services; and lumber. Salmon received in a trade may be whole or processed in the form of strips, dried fish, fillets, half-dried, or canned salmon. But some fishers utilizing fish wheels make a trade agreement where the "buyer" operates the fisher's wheel for a week and keeps the fish. Some other examples of exchanges include: moose meat for strips or dried fish; a drum of gas for running a wheel for a week; 15 gallons of gas for 25 half-dried salmon; labor on project at camp for five or six pounds of smoked Chinook salmon strips; chicken eggs for smoked Chinook salmon strips; and berries for salmon. Sometimes people described the exchange as value for value, for example a medical exam or dental work for salmon at the same value as the bill.

Cost of Subsistence Fishing

All the participants were asked about costs of subsistence fishing. Without fail, everyone said gas was the highest cost, ranging from \$245 to \$1,500 for the fishing season. During the summer of 2005, gas at the pump in Tanana cost \$3.60 a gallon. Other costs that were mentioned included supplies for keeping the fish wheel running (netting \$400, replacement parts \$750 to \$1,000, roll of wire \$600 and labor), groceries (as much as \$1,500 a month), electric bill for the freezers (\$50-60 a month), replacement set gillnets (150 feet for \$750), knives (\$80-200), knife

sharpeners, chainsaws, guns and ammunition, sleeping bags, tents, mosquito repellent, boat maintenance (\$1,000 annually), rock salt, jars, rope, and tarps.

Contemporary Customary Trade

Yukon River salmon has long been highly valued as a good trade product. As a dried product it is lightweight and can sustain people for a long time because of its rich oil content. Participants described fewer people fishing today than in the recent past (20 years ago). Although there are fewer fishers on the river, there are not necessarily fewer people who want to eat salmon; thus the few who fish are asked to supply the non-fishers with salmon. The author of this study is concurrently working on a study on the Koyukuk River in the communities of Allakaket and Hughes. In 2005, at least two participants of the Koyukuk River study reported that they preferred not to fish for salmon but to purchase their salmon because of the high costs of fishing and lower quality of salmon in their area. They preferred to purchase their salmon from Tanana area fishers. One participant in this study in Tanana reported that he had been selling salmon to people in Hughes for many years. Clark (1974) reported that the major item purchased by the Native people of Allakaket and Alatna was smoked salmon strips from Koyukon Athabascans living at Ruby.

Of the 13 interviews that took place for this project, 7 of the fishers did not sell or sold only very small amounts of subsistence-caught salmon and six actively sold salmon through customary trade. Only one fisher interviewed had never sold fish. This particular fisher and her family valued the opportunity to spend time together in camp. They harvested less than they required and bought fish annually to supplement their harvest. Two of the fishers interviewed sold very small amounts of their harvest. They described their sales as either “a favor” or “only on high-harvest years.” Four of the fishers stated they had sold fish in the past, but did not at the time of the interview. Of these fishers, one had sold small quantities in the past. This fisher had sent fish to his brother for resale in another location and sold small amounts of fish (4-5 fish) to an acquaintance in Fairbanks. Another had sold fish in the past as whole fish to help pay for the costs of fishing. A third had sold larger quantities in the past, as much as one half of their harvest of 150 to 200 Chinook salmon. And the fourth fisher, who had sold fish in the past, sold very small quantities in 2005 to friends as a favor. Most of his recent harvest was for sharing in a large extended family-and-friends network.

In the past this fourth fisher had sold as much as 600 pounds annually through his family fish camp at a value of \$6,000. He described the balance found through customary trade by active fishers in this area of the Yukon River. Most people needed something to earn cash to be able to continue a fishing lifestyle. Some of these fishers sold strips, some set up contracts with fisheries management agencies to record fish data, and some had jobs in Tanana. This earned income was necessary to balance the cost of gas, food and other associated expenses. Customary trade supports fishers’ ability to spend time on the river. They put up fish beyond their family’s needs and sell the excess. This opportunity for income allows the fish camps to stay active. “Customary trade is the lifeblood of fishing on the [Yukon] river,” Stan Zuray (the Rapids, July 2005).

Six of the fishers interviewed for this project had fish camps that were active in selling Chinook salmon for customary trade. Four of these six camps actively harvested fall chum salmon as well.

These fishers active in customary trade sold the majority of their fish to their home communities of Tanana, Manley Hot Springs, or Nenana. They sold minimal amounts to friends or acquaintances in Fairbanks, Salcha, Sitka, Minto, Minchumina, Ruby, Point Hope, and communities along the Koyukuk River. Most of these fishers described the recipients of their fish as dependent on them to get fish. “A lot of old people depend on it [customary trade of salmon],” Lester Erhart (the Rapids, July 2005).

Most fishers active in customary trade had regular customers they sold to every year but there were a few outliers or situations not the norm for the rest of the participants. They included one fisher who stated that he had customers he did not know; these customers learned of their fish by word of mouth.

The large majority of salmon sold was in the form of strips or eating / dried fish. Most of the fishers who sold salmon, sold them at the same or similar prices. Prices for the variety of salmon sold in Tanana in 2005 were as follows:

Whole fish	\$1/pound or given away free
Fillets	\$2/pound
Half-dried	\$5/pound
Strips	\$15-18/pound
Eating or dried fish	\$12-18/pound
Canned strips	\$12-15/tall can
Canned fresh fish	\$6/short can, \$15/tall can, \$8/jar

Two of the 13 fishers interviewed reported that they sometimes bought salmon from the other fishers to supplement what they caught. One fisher described that her nets and fishing location did not catch the highest number of salmon. This fisher purchased the early-run fall chum from fishers in the Rapids. The other fisher also used nets and did not catch large quantities. In addition, her fish camp was fairly new and she was more comfortable purchasing from a fisher who had more experience producing strips and half-dried salmon.

The money earned through customary trade of salmon in the Tanana area was generally used for maintaining fish camp and paying associated costs. The highest of these costs was gas. The fishers also used the money for food or groceries, repairs, power costs and supplies. Fishers described the earned income as subsidizing their fishing lifestyle. It enabled them to be prepared for breakdowns in equipment and to maintain fish camp. Some used the money for general living; others described the income as “pocket change in the winter.” One fisher explained that very few fishers would be able to leave fish camp “out of the red” after covering all the associated expenses. He explained that today fishers do not buy their boats and motors, valued at \$5,000 to \$7,000, with money earned from fishing. These fishers had wintertime activities that provided additional income. These wintertime activities needed to coincide with the fishing lifestyle, allowing them to commit the time necessary to summer fishing. Some of these winter activities were tourism, dog mushing, teaching and trapping.

Participants who were active in customary trade and spent a significant amount (two and a half to three months) of time at fish camp expressed that the reason there were few people continuing this lifestyle was that it was so difficult. Some explained that dedicating your summer to fishing made it difficult or impossible to have a regular job but also explained that regular jobs in the Tanana area were scarce. The amount of money earned through customary trade was low for the amount of effort expended. Many said that it would be easier to get a regular job but at the same time they spoke of the appreciation they had for the healthy family-oriented atmosphere they experienced at fish camp.

Customary trade allows many fishers in the Tanana area to spend their whole summer at fish camp and continue the lifestyle they grew up with. As the following quote shows, some participants explained that without the money earned from customary trade, they would not be able to sustain their fish camps.

“So this fishery I don’t think is prone to abuse, it’s too hard work, there’s not enough money, people aren’t, nobody’s in it for the money, let me put it that way. It’s a wonderful place for kids and old people and, of course, the traditional thing, and I really fear that for some reason we are not allowed for our customary sales it’s going to shut every fish camp down up here and that’ll be the end of it. And I just don’t see where that’s going to benefit anybody.”

Steve O’Brien, the Rapids, July 2005

Dismay was expressed by participants at the seemingly unfair food safety regulations established by ADEC and applied to the processing of salmon strips, which one participant described as a cottage industry and compared to the sales of wild berries, tea, and honey. They saw salmon strips as just another of the many wild products that people processed and sold. Another participant, frustrated with the ADEC food safety regulations applied to salmon strips, explained that those levels were not possible at fish camp and would take away from the traditional process. “This is what makes our Yukon River salmon strips unique. It’s how we all know how to preserve and dry. They can’t get it anywhere else in the world,” explained Kathleen Peters Zuray (the Rapids, July 2005).

When asked about changes seen over their lifetimes, many of the fishers stated that there were fewer people fishing today. Some stated that their children were not fishing or that younger people were not learning to fish. One expressed concern that fishing will phase out in the next generation. Another expressed concern over fish camps closing and a reduction in the total number of fish camps around Tanana. People who used to fish were no longer fishing but they still wanted to eat salmon. They said that today there were more people who needed salmon because of this change. Still others felt that not much had changed regarding the way they fish.

DISCUSSION

Through this study, customary trade practices are documented through interviews in the communities of Alakanuk, Holy Cross, and Tanana. These communities are located on the Yukon River, from the mouth of the river to the confluence with the Tanana River. Both the literature research and the interviews show that customary trade of fish has existed on the Yukon River since the precontact era and continues today. An examination of customary trade, past and present, shows that the traditional practice has continued, evolving and adapting just as the people of the Yukon River have evolved and adapted to adjust to the modern or changing world.

The people of the Yukon River continue their tradition of trading products or resources from their area to obtain other products or resources not readily available where they live. In the precontact and Russian eras, this trade was generally conducted through barter, because cash was not yet introduced into their economy. In the American period, the people of the Yukon River continued to trade their readily available products and resources (salmon and wood) for supplies not otherwise available to them. These supplies included food, clothing, and hunting and fishing equipment.

The information gathered through interviews with fishers in the three study communities demonstrates that customary trade or trade of fish continues today in much the same way it has been practiced over the known historical period, but the trade of fish on the Yukon River has evolved. In the modern era, this trade has changed from barter to an exchange for cash. To the people of the Yukon River, the purpose of the exchange has not changed. It has merely become easier to exchange fish for cash and then buy the gas or other items needed to support a subsistence lifestyle. Cash has become the medium in obtaining these items. Additionally, the trade no longer takes place in stores or on traders' boats; now traders take (or send) their products to their buyers or their buyers come to them.

The 28 interviews with fishers experienced or knowledgeable about customary trade of fish portrayed a variety of levels of participation in customary trade of fish. All the communities within this study reported conducting customary trade of salmon today. But regional variations exist; the amount of customary trade reported increases as one travels upriver.

In Alakanuk, customary trade continues today, but at a lower rate than in the upriver communities in this study. There were very few fishers who participate in customary trade of fish activities. This may be due to the greater opportunity to earn income through commercial fishing in the lower river. Here, customary trade was described as opportunistic—as people asked, or when the opportunity arose. In Alakanuk, customary trade of fish is not a preplanned activity, but one that takes place along subsistence rules with small transactions, although the exception is the small number of families who harvest more fish than they need and sell it. Fienup-Riordan (1986:188) made similar findings. She reported that most families usually only sold in especially high harvest years. The average quantities of fish sold today in Alakanuk appear to be significantly reduced from those in the distant past. Average quantities reported during the study

period (2004) were quart-sized Ziploc bags, although larger quantities were also reportedly sold periodically.

In Holy Cross, customary trade of fish continues at a higher rate than in Alakanuk. It is not unusual to sell subsistence-caught fish in this community and, in fact, 7 of the 8 participants reported practicing customary trade of fish today. The fishers in this study were chosen through a snowball approach with recommendations from the local research assistant, Tribal Council and other fishers. The high level of customary trade in Holy Cross may be due to an existing demand for the product as many participants spoke of the desirability of their fish and the many people who coming looking for salmon to purchase. It may also be due to the lack of opportunity other cash earning opportunities such as commercial fishing. The money earned annually through customary trade of fish by Holy Cross participants reportedly averages US\$1,360.

In the Tanana 6 of the 13 participants actively sold their salmon whereas 7 either did not sell salmon or sold very small amounts. Since the participant group was selected as people knowledgeable about fishing and customary trade, one can conclude that slightly less than half of the fishers in Tanana participate at some level in customary trade of fish. The vast majority of salmon was sold for cash or exchanged as customary trade within their home community. Although a minimal amount of barter was reported, Tanana participants explained that in today's modern world exchanging salmon for cash and then purchasing the items needed was simpler than arranging an item-for-item exchange (i.e., barter.) Participants felt that their exchanges were traditional but had adapted to the modern economy. Their incomes come from extensive hard work, as much as four months at fish camp, and usually the sacrifice of the opportunity for a regular job.

The income earned through customary trade is important because there are few other cash-earning opportunities in these communities and the costs of subsistence fishing are high. The median household income of all three communities is lower than the national average of \$41,994. Holy Cross has the lowest median household income at \$21,875, just over half the national average. Alakanuk is slightly higher at \$26,346, and the median household income in Tanana is \$29,750 (US Bureau of the Census 2000). Participants in all three communities reported that the money they earned through customary trade was used to sustain fish camp and their fishing lifestyle. It was repeatedly stated that, "no one is getting rich through customary trade."

As Wolfe (1981) found in the Yukon Delta region, only a few products were exchanged on the local market, including dried salmon strips and seal oil, and in most cases the buyer was local to the Yukon Delta. Wolfe reported that the demand for traded food on local market historically has not been large enough to exceed supply and he argued that it was extremely unlikely that demand would lead to short-term overproduction and threaten the resource base (Wolfe 1981:219).

The practice of harvesting more than the household needs and selling it to those who need it later can create a bank for those who may find themselves in need of salmon after the fishing season has passed. Worl reported that this occurred in the North Slope region, where she found that

subsistence products were sold to the village stores for cash and later purchased, acting as a “protein bank” (Langdon and Worl 1981:91).

Commercial fishing is another way to obtain cash in a Yukon River community but the opportunity depends on location on the river. Most of Yukon River commercial fishing takes place in the lower river and there is little to no opportunity for commercial fishing in the upper river. The numbers of study participants with commercial fishing permits in the communities of Alakanuk and Tanana were about the same. In Tanana, 7 of the study participants reportedly had commercial fishing permits and 6 did not have commercial fishing permits and in Alakanuk 4 of the 7 study participants have commercial fishing permits or had them in the past. In Tanana, the participants who participated most heavily in customary trade of fish—with the exception of one family, were also commercial-fishing permit holders. But having a commercial fishing permit does not ensure the ability to earn an income through commercial fishing. Fishers need an open commercial fishing periods and the availability of a buyer in their region before they have the opportunity to commercial fish. With these variables to consider, the middle and upper river has much less opportunity for earned income through commercial fishing as compared to the lower river.

In Tanana, salmon is sold through customary trade to people in the community who do not fish and to communities that do not have access to salmon of the same quality. Participants reported that fewer people within their area were fishing yet they still wanted to eat salmon. Thus, a smaller number of fishers needed to provide salmon for a growing number of nonfishers. In addition, they sold their salmon in areas without access to the higher-quality Yukon River salmon, including Tanana River communities such as Nenana and Koyukuk River communities such as Hughes.

Throughout the study communities, participants repeatedly discussed the importance of continuing a tradition of trading a resource available in their region to obtain access to something they needed, such as cash. Rather than a continued reliance on barter, the use of cash in place of barter in subsistence transactions has increased over time. Wheeler (1998:269) focused on the role of cash in subsistence economies in her dissertation, arguing that local people viewed cash as one of many resources to be exploited. She found that cash was a very important resource that was incorporated into the local economy in a culturally appropriate way. According to Wheeler (1998:269), the ability to exploit this resource (cash), is an adaptive strategy providing access to technology such as boats, motors, and nets and thus maximizing effective fishing techniques. Cash is the resource that allows people in the village to obtain gasoline, heating fuel, clothing, and food. But as Wheeler noted (1998:269), its availability is unpredictable, thus cash is very much like other resources along the Yukon River. Wheeler (1998:269) found that cash is used when available yet its absence is not unexpected and does not necessarily cause disaster. As participants described, particularly in Tanana, trading salmon for cash is just another means or the simplest way to obtain gasoline or another resource they need to complete their annual cycle. In local terms, cash is just another resource like moose or salmon and thus trading salmon for cash and then trading cash for gas is really no different than barter—yet one is legal and the other is questionable or illegal.

The importance of continuing to cure salmon in the traditional style taught to them by their parents and grandparents was a topic of great concern to study participants, particularly in Tanana and Holy Cross. Participants felt that their tried-and-true system of drying and smoking their salmon is sufficient, clean, and healthy. According to the participants, the expectation to meet ADEC health safety standards and change the way they process their salmon strips to legally sell them as customary trade was unreasonable, if not impossible, in their rural setting.

In the community of Tanana, participants described their fear of the end of customary trade and what that would do to the continuing practice of fish camp. Survival of fish camps on the Yukon River may depend on the flexibility, innovation, and adaptive change of the people. Trading salmon for cash may be an adaptive dimension of a traditional customary practice (Wheeler 1998:169). The cash earned through customary trade enables families to spend extended time at fish camp. According to participants, fish camps are a wholesome alternative to idle time spent in the village. Families felt they were protecting their children from negative influences, teaching them a skill, and keeping them healthy by bringing them to fish camp. Indeed, all over the Yukon River, spirit camps are being revitalized to bring young people out to fish camp to teach them traditional values and their way of living off the land.

Although the sale or customary trade of fish continues to be an important part of the domestic economy of some households, the primary motive is not strictly economic gain. As Fienup-Riordan (1986:188) found in the Yukon Delta villages, only a handful of households harvested extra salmon specifically for sale. The majority of households sold salmon irregularly, when they happened to have an unusually high harvest. Fienup-Riordan also found that although the price of locally harvested goods was relatively high, the price was barely sufficient to cover the cost of the harvest. The goal of the exchange system is to accumulate within the extended family for distribution beyond it, both within the village and between villages (Fienup-Riordan 1986:188).

The exchange of salmon through customary trade is about social relationships as well as the movement of resources and the opportunity to earn cash. Worl found that on the North Slope many different items were exchanged in the subsistence economy and subsistence items were sold at a "Native price." The Native price is a special price without labor costs, but includes an obligation on the part of the purchaser to provide or share subsistence resources at a later date (Langdon and Worl 1981:93). Similar results were found in this study. In Holy Cross, at least one participant explained that the price of salmon varied by whom they sold it to. In addition, another participant in Holy Cross made exchanges with a reciprocal obligation to provide or share subsistence resources at a later date.

In the lower Yukon River area, subsistence is the hunting or gathering and is also the system to distribute and exchange these products. Trade networks link the coast to the Interior, and regionally specific products are exchanged widely. The trade network is guided by a customary distribution and exchange system with complex rules of participation, partnership, and obligation. Traditional rules ensure that subsistence products are distributed and available to all households, regardless of whether they have a skilled fisher as a member. The food a family produces flows out and other items flow back in through sharing, exchange, and customary trade. Respect for the elevated social position of elders is symbolized by the young giving food to the

older members of the community. Through this system, villages are able to provide for the elderly, the disabled and the needy (Calista 1991:156; Wolfe and Ellana 1983:42)

Sharing and trading fish on the Yukon River is part of the subsistence way of life. The rules of the subsistence system developed over time to respond to changing needs in a community or region and provided a distribution system for those in need. As the results of this study show, customary trade of fish on the Yukon River continues that system. In all the communities in this study, fish was shared extensively. In Alakanuk, sharing of fish was extensive and other researchers have found that people did not keep track of sharing because the giving and receiving of food was so common and frequent (Wolfe 1981:224). In Holy Cross, fish was distributed, directly from fish camp, throughout the community for nonfishing households to jar for their own use. This frees up the fishers to focus on fishing, cutting, and drying, and avoids waste at the same time. Each fisher has certain people to whom he or she gives fish. In this way, the whole community is able to eat fish. In Tanana, fish was distributed in a similar way, directly from fish camp and extensively throughout the fishing season. In all three communities, participants expressed that they felt it was their duty to share this resource that is in high demand and readily available.

Customary trade is a way for families to distribute subsistence harvests to people outside their usual sharing and bartering networks, in return for limited amounts of cash. Customary trade provides traditional foods to individuals and families who are unable to harvest. Many of the exchanged foods (i.e., dried whitefish) are not available in commercial harvests. Customary trade is not conducted for profit, nor is it conducted in isolation from other subsistence activities.

This study was conducted because the Federal Subsistence Board was making adjustments to the customary trade regulations, and information or understanding of the current practices was limited. Fishery managers can benefit from this study by becoming aware of the contemporary practices of customary trade and how tradition has evolved in the modern era.

The research objectives in this project were completed. Customary trade, as a part of the subsistence use of salmon was described. Total quantities of fish traded were not captured as a sum total but general amounts traded per fishing family were described, although this information was more accurate in Tanana where the interviewer had more experience obtaining this type of information. Customary trade was described through the interviews as trade that occurs within the villages, as well as between villages, and between the residents of the village and the larger urban communities. The research showed, through the descriptions of typical transactions and comparative values, that, with the exception of a few outliers, the majority of the fish is traded for personal use or family consumption.

Customary trade of fish continues today as an active form of resource exchange and support for subsistence economies needing cash. It is an economic, as well as social system that enables goods to be distributed over time and space. In Alakanuk, customary trade of fish was described as opportunistic, only conducted on high-harvest years, with the exception of a few households that harvest more than they need to supply those who are unable to fish or have a need for fish once the fishing season ends. In Holy Cross, participating in customary trade of salmon is not unusual, with 7 out of 8 participants engaging in customary trade. According to participants,

earnings from average annual customary trade of fish in Holy Cross were \$1,360. In Tanana, 6 of the 13 participants were active in customary trade whereas the remaining 7 either did not conduct customary trade activities or participate at a very minimal level. Those highly active in customary trade of fish in Tanana worked hard and spent as much as four months at fish camp. In all three communities, customary trade of fish is a way to earn cash when few other opportunities are available. The money earned is used to support a subsistence lifestyle, buying equipment and supplies used in pursuing harvest activities.

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Appendix A

Participant Consent Form

PARTICIPANT CONSENT FORM

Traditional Ecological Knowledge of Customary Trade of Subsistence Harvested-Fish on the Yukon River

Funded by the U.S. Fish and Wildlife Service, Office of Subsistence Management

Project carried out by the Yukon River Drainage Fisheries Association

Contact: Catherine Moncrieff
725 Christensen Dr. #3-B
Anchorage, AK 99501
Toll-free telephone: 1-877-999-8566

I, _____, understand that the purpose of this research project is to learn about the nature of customary trade of fish on the Yukon River and that it is funded by the Office of Subsistence Management. I am willing to take part in this project. I understand that I will have the opportunity to review the preliminary findings and that I will be able to correct or edit the preliminary findings to ensure that they are accurate and not harmful to me or my community. I give permission to Catherine Moncrieff to use my name and/or photo and to record this interview. I understand that I will receive \$100 honorarium for my time.

Interviewee: _____ Date: _____

Address: _____

Phone number: _____

Interviewer: _____

☐ This consent form was translated. Translator _____

Appendix B

Interview Topic List

Interview Topic List

Subsistence fishing – Now

Where do you fish? For how long there?
Who do you fish with, cut fish with, etc. (family, other)
Where do they live?
Roles— who cuts, dries, smokes fish?

Subsistence fishing – past

Who, roles?
What has changed?

Cost of Subsistence Fishing

Gas, equipment, etc.?
Who pays?
Who owns gear?
Is this different from 20 years ago?

Barter, buy, or trade fish

Do you ever trade fish for other goods? Now or ever?
Do you ever buy fish? (Practice customary trade?)
Why do you trade or buy fish?
What do fish cost in this area?
If you sell fish, what do you use that money for?
What is the annual amount and kinds of fish you sell or buy? Strips or frozen?
To who – details, list
Relationship to that person
Where they live
When first began selling, buying, or bartering with that person

Who else sells, buys, or barter fish in this community— now or past?

Do State and Federal regulations affect how or when you sell fish?

Dogs

Ever, how many, effect on subsistence fishing?

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